Front End Module for ZigBee®-Based Smart Energy and ISM Applications

RF Micro Devices, Inc. announces the availability of the RF6525 front end module (FEM). RFMD's highly integrated RF6525 FEM meets or exceeds the system requirements of ZigBee® applications operating in the 2.4 GHz to 2.5 GHz frequency band and supports multiple applications, including smart energy/advanced metering infrastructure (AMI), home area network (HAN), wireless ZigBee home automation, portable battery powered equipment, and general 2.4 GHz ISM band systems. Designed in collaboration with Ember Corporation to create the RF6525/EM357 reference design, the feature-rich RF6525 integrates a +20dBm PA with a Tx harmonic output filter in the transmit path, and a low noise amplifier (LNA) with bypass mode in the receive path. The RF6525 also includes a low insertion loss, high isolation, double-pole double-throw (DPDT) diversity transfer switch and a two-port 50 ohm Rx/Tx integrated balun that simplifies matching and provides balanced input and output signals for both the Tx and Rx paths. The RF6525 is ideal for ZigBee systems operating with high efficiency requirements and a minimum output power of 20 dBm. In the receive path, the Rx chain provides 11.5 dB of typical gain with only 7 mA of current and an excellent noise figure of 2.5 dB. The high level of integration and industry-leading form factor of the RF6525 (3.5mm x 3.5mm x 0.5mm) minimizes end customer product footprint and reduces assembly costs and external discrete components. The complete reference design approach, pairing RFMD's RF6525 FEM with Ember's EM357, shortens customer design time and accelerates time-to-market, while delivering industry leading product performance.

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